

In the Abstract

Please replace the abstract with the following:

Abstract of the Invention

A method or apparatus for measuring lateral variations of a property such as thickness or refractive index of a transparent film on a semiconductor, in a region of repeated patterning comprises: illuminating over the patterned area with a beam of light of multiple wavelengths, the beam having dimensions to include repeated patterning; detecting the intensity of light reflected over the patterned area for each wavelength; producing a signal defining the variation of the intensity of the detected light as a function of the wavelength of the detected light; decomposing the signal into principal frequencies thereof; determining from the principal frequencies, values of the thickness etc. of the transparent film; and applying the values to repetitions within the repeated patterning.